

THE NAVY'S FIGHT AGAINST SCURVY

By André B. Sobocinski, Historian, Bureau of Medicine and Surgery



Scurvy patient, ca 1842. Courtesy of the National Library of Medicine

Few diseases have been more synonymous with sailors than scurvy. From the dawn of time scurvy has been described as the “Black Death of the sea,” and was once even as deadly as smallpox. Yet years after the British Royal Navy successfully demonstrated the treatment and prevention of this affliction through citrus fruit and lemon juice rations the disease continued to plague the U.S. Navy.

In 1803, the surgeon aboard USS *New York* reported that scurvy alone was the chief medical concern aboard his ship stating: “I. . .think it highly necessary to inform you that from the 23th of October last, the scurvy of a most malignant character & with the highest symptoms has broken out among our ship’s company & increases dayly [sic].”

The effects of the Vitamin C deprivation could be outright ghastly. In his textbook on nautical medicine, Surgeon Usher Parsons described the manifestation of the scurvy in a sailor: "The gums become soft, livid and swollen, are apt to bleed from the slightest cause, and separate from the teeth, leaving them loose. About the same time the legs swell, are glossy, and soon exhibit foul ulcers; the same appearances follow, on other depending parts of the body. At first the ulcers resemble black blisters which spread and discharge a dark colored matter . . .these ulcers increase, great emaciation ensues, bleedings occur at the nose and mouth, all the evacuations from the body becomes intolerably fetid, and death closes the scene."



Surgeon William P.C. Barton, USN in 1809, by Thomas Sully. Courtesy of the Philadelphia Museum of Art

In 1809, Dr. William Paul Crillon Barton, a young Philadelphia-born Navy surgeon, took on the fight against scurvy while aboard USS *United States*, then under the command of Commodore Stephen Decatur. Turning to the medical literature out of Great Britain, Barton administered a citrus concoction to the most severely affected crewmembers and curing them of their symptoms.

"I had an opportunity of trying the efficacy of the simple expressed juice of limes, which was liberally allowed on my indent, by commodore Decatur, in eight or nine cases of sea-scurvy, which occurred on board of the frigate United States," recalled Barton. "Two of these cases were very bad ones. I had the satisfaction to

find that I easily checked the disorder by an early and liberal administration of lime-juice, undiluted, three or four times a day, and in the form of lemonade, for drink, at all times."

Using these case studies, Barton lobbied the Secretary of the Navy to furnish U.S. Navy ships with what he described as a "clarified lemon-lime ration." When his correspondence was unanswered he reached out to individual ship captains for their opinions on introducing "antiscorbutic rations" to their crews.

Capt. David Porter of USS *Essex* assured Barton that he would spread word to his "brother ship captains."

Commodore John Rodgers of USS *President* commended Barton on his sound judgement stating: "Your observations relative to the effects of this valuable acid, as a preventive against scurvy; as also of its efficacy in removing from the system that horrid disease, to which seamen (especially after long voyages, when their diet has consisted principally of salted provisions) are particularly liable, I have perused with much pleasure: as well because they serve as a proof that you wish to benefit the service by your experience; as of my conviction of the correctness of what you represent. In the course of my own observation, I have in many instances witnessed the salutary effects of acids, and particularly those of limes and lemons, not only in removing scorbutick [sic] affections from, but in fortifying the system against the disease; and I have not the least doubt, but the most beneficial effects would result by the introduction of lime or lemon juice on board of our ships of war, in the manner you mention; particularly when they are employed on foreign service."

Despite Barton's efforts, however, the decision to adopt antiscorbutic rations would remain the hands of individual fleet commanders, ship captains and their consulting surgeons for well into the nineteenth century. And even if a ship did take necessary preventive measures against scurvy, long deployments could exhaust shipboard provisions leading to a host of nutritional diseases like scurvy.



James Lind – Conqueror of Scurvy by Robert Thom, 1959. Courtesy of the National Library of Medicine

One of the most well-known outbreaks of scurvy took place during the Mexican War in 1846. During the U.S. blockade of Vera Cruz over one fifth of the USS *Potomac*'s company (over 100 men) were afflicted with scurvy necessitating the ship's return to Pensacola, Fla. The *Raritan* and *Falmouth* would soon after follow the *Potomac* to Pensacola where they transferred their scurvy-inflicted crews to the naval hospital.

Remarkably cases of scurvy would still appear in the medical logs of the U.S. Navy into the twentieth century. In his medical report on scurvy published in the *United States Naval Medical Bulletin* in 1926, Lt. Cmdr. L.J. Roberts, MC, USN wrote: "With the advancement of knowledge as to its etiology and the means of its prevention its incidence on board steam vessels is now almost negligible and in the United States Navy it is extremely rare. . .records show that during the period of 30 years, from 1895 to 1924, inclusive, 12 cases of scurvy were reported as occurring in the Navy."

Sources

Barton, WPC. *A Treatise Containing a Plan for the Internal Organization and Government of Marine Hospitals in the United States Together with a Scheme for Amending and Systematizing the Medical Department of the Navy*. Printed by Author, 1814.

Estes, J. Worth. *Naval Surgeon: Life and Death at Sea in the Age of Sail*. Canton, MA: Science History Publications, 1998.

Foltz, Jonathan. "Report on Scorbatus as it appeared on board the United States Squadron, Blockading the Ports in the Gulf of Mexico." *The American Journal of the Medical Sciences*, January 1848.

Parsons, Usher. *Sailor's physician, exhibiting the symptoms, causes and treatment of diseases incident to seamen and passengers in merchant vessels: with directions for preserving their health in sickly climates; intended to afford medical advice to such persons while at sea, where a physician cannot be consulted*. Cambridge, MA: Hilliard and Metcalf, 1820. p25.

Roddis, Louis. *James Lind: Founder of Nautical Medicine*. New York: Henry Schuman. 1950.

Roberts, L.J. "Scurvy: A Report of Case." *United States Naval Bulletin*, Washington, DC: Government Printing Office, January 1927.